extracts. Oestrich had supposed that chondroitin-sulphuric acid was responsible for certain favorable effects on carcinomatous growths, and Oser and Pribram used his medium, composed of sodium chondroitin-sulphate and β-eucaine, upon a series of patients, but were entirely disappointed by the lack of good results. Considering that the spleen is almost as efficient as the bone marrow as a site of formation for antibodies, and that agglutinins can be demonstrated in the spleen earlier than in the blood, Braunstein obtained good results by removing the sterile spleen from cancer-mice and injecting the extract of the spleen in salt solution into other cancer-mice. He first used mice which had been injected with carcinoma, and removed the spleen before any tumor appeared. Of other cancer-mice so injected, one-fourth of those surviving showed tumor recession. One-third died of the injection. When he took the spleen from mice with well developed tumors, 6 of 15 mice injected died, but 5 of the remaining 11 showed recession. Yet again, he took the spleen from mice injected intraperitoneally repeatedly with carcinoma and sarcoma extract, four to six days earlier; this was injected into 45 cancer-mice with 3 deaths; in 6 recession of growth occurred, in 3 cessation of growth. Of 7 sarcoma-rats similarly tested, 6 showed regression. Braunstein's conclusions were that the spleen possesses a highly developed power of resistance against tumor growth, while, on the contrary, splenectomized animals are more liable than normal animals to the inroads of malignant growth. Rohdenberg and Johnston made observations that were parallel upon the thymus, pancreas, spleen, hypophysis, and testes, showing that after extirpation of the thyroid, thymus or testes the animal had a lessened resistance to carcinoma. Oser and Pribram's experiments support the views of Braunstein, and they show measurements and pictures of tumors indicating regression, and also the comparatively quicker growth of tumors in previously splenectomized animals. Spleen extract was efficient in the possession of antibodies, while blood removed at the same time failed to show such qualities.

Anaphylotoxin, Peptotoxin, and Anaphylaxis. — BESREDKA, STRÖBEL, and JUPILLE (*Annal. de l'Inst. Pasteur,* March, 1913, xxvii, No. 3) give details of some interesting experiments upon anaphylotoxine, a name which Friedberger gives to what he supposes to be the active agent in anaphylaxis; he considers that the anaphylactic state of an animal with regard to an albumin is due to the appearance of precipitin in its serum, and anaphylactic shock is the result of combination of the precipitin with the alexine of the animal. This being the case, one had only to inject an unprepared animal with the test-tube preparation of precipitin and alexin, and the result showed that the intravenous injection was highly toxic to the animal. This substance Friedberger called *anaphylotoxine.* In the words of Besredka, Ströbel, and Jupille, "the fortune of anaphylotoxin was made, and almost any bacillus, however slightly pathogenic, could apparently be proved to possess its anaphylotoxin." We were in a fair way to find that even infectious diseases were the work, not of specific pathogenic agents so much as of anaphylotoxin. Besredka, Ströbel, and Jupille have endeavored to stem the triumphant march of the anaphylotoxins by attempting to find out if they are the specific poisons of anaphylaxis. To obtain a microbic anaphylaxis, it was necessary to make an alexin act on microbes and specific serum; it was then discovered that specific serum was unnecessary, and that it sufficed to make the alexin act on the bacilli alone. Still later the authors have simplified the technique by withdrawing from it the bacilli, making the alexin act on the sterile medium without bacilli; they have obtained thus a toxic substance which has all the characters of anaphylotoxin. This they have called peptotoxin because of its relationship with peptones, in preference to anaphylotoxin, since they consider it to have no relation to anaphylaxis. For purposes of comparison they have taken guinea-pigs injected with anaphylotoxin, peptotoxin, and peptone, followed by bacterial vaccination in progressively increasing doses quickly administered. The results have been to show that anaphylotoxic shock and anaphylactic shock are two entirely different things, and that vaccination following anaphylotoxin, peptotoxin, and peptone, presents well-defined characters common to these three substances, and very distinct from the characters which designate the ordinary anti-anaphylaxis. The toxic effects produced by the peptone and its derivatives may exactly copy the effects of anaphylaxis, but the "peptonic shock" does not in the guinea-pig produce any protection against anaphylactic shock. Typhus anaphylotoxin can be injected safely into the venous system in guinea-pigs in increasing doses, injected at short intervals, and the same is true of peptotoxin and of the peptone; in all three cases, however, the weight of the animal and the dose of poison must be reasonably coördinated, and for all three it is likewise necessary that the venous circulation should be used. Anti-anaphylactic vaccination does not possess these characters, and Besredka, Ströbel, and Jupille conclude that the phenomena which they attribute to anaphylotoxin, peptotoxin, and peptone have nothing in common with true anaphylaxis. We are thus, they think, carried back once more to our original conception of anaphylaxis and anaphylactic shock, which excludes the idea of intoxication by a particular substance such as anaphylotoxin. They compare the process of desensitization which occurs during the anaphylactic state to a rapid decoloration or decompression: when such decompression or decoloration occurs in a gradual and progressive manner, the process of anti-anaphylaxis is being accomplished.

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